

Simplify

$$\textcircled{1} \sqrt{8} \cdot \sqrt{2} = \sqrt{16} = \boxed{4}$$

separate problem $\sqrt{2} \cdot \sqrt{3} = \boxed{\sqrt{6}}$

$$\textcircled{3} \frac{x^2 \cdot x^5}{(x^3)^3} = \frac{x^7}{x^6} = \boxed{x}$$

$$x \cdot x \cdot x \cdot x \cdot x \cdot x$$

$$\textcircled{5} \sqrt{18x^5y^6}$$

$$\sqrt{18} = 3\sqrt{2}$$

$$\sqrt{x^5y^6} = x^2y^3\sqrt{x}$$

$$\boxed{= 3x^2y^3\sqrt{2x}}$$

$$\begin{array}{r} \sqrt[3]{} \\ 1 \\ 8 \\ 27 \\ 64 \\ 125 \\ \vdots \end{array}$$

$$\textcircled{2} \sqrt{18} = \sqrt{9 \cdot 2}$$

$$\boxed{3\sqrt{2}}$$

$$\begin{array}{r} \sqrt{} \\ 1 \\ 4 \\ 9 \\ 16 \\ 25 \\ \vdots \end{array}$$

$$\textcircled{4} \sqrt[2]{x^5y^6}$$

$$\boxed{x^2y^3\sqrt{x}}$$

$$\textcircled{6} \sqrt[3]{54x^2y^8}$$

$$\begin{aligned} \sqrt[3]{54} &= \sqrt[3]{27 \cdot 2} \\ &= 3\sqrt[3]{2} \end{aligned}$$

$$\sqrt[3]{x^2y^8} = y^2\sqrt{x^2y^2}$$

$$\boxed{= 3y^2\sqrt[3]{2x^2y^2}}$$

7.2 conclusionSimplify

$$\textcircled{1} \quad \sqrt{54} = \sqrt{9 \cdot 6} \\ = \boxed{3\sqrt{6}}$$

$$\textcircled{2} \quad \sqrt{24} = \sqrt{4 \cdot 6} \\ = \boxed{2\sqrt{6}}$$

$$\textcircled{3} \quad \sqrt{48} = \sqrt{16 \cdot 3} \\ = \boxed{4\sqrt{3}}$$

$$\textcircled{4} \quad \sqrt{96} \rightarrow \sqrt{16 \cdot 6} \\ = \boxed{4\sqrt{6}}$$

 $\sqrt{\quad}$

1

4

9

16

25

36

49

64

81

100

 $\sqrt[3]{\quad}$

Simplify

$$(5) \sqrt[3]{54} = \sqrt[3]{27} \cdot \sqrt[3]{2} = \boxed{3\sqrt[3]{2}}$$

$$(6) \sqrt[3]{250} = \sqrt[3]{125} \cdot \sqrt[3]{2} = \boxed{5\sqrt[3]{2}}$$

$$(7) \sqrt[3]{128} = \sqrt[3]{64} \cdot \sqrt[3]{2} = \boxed{4\sqrt[3]{2}}$$

$$(8) \sqrt[3]{81} = \sqrt[3]{27} \cdot \sqrt[3]{3} = \boxed{3\sqrt[3]{3}}$$

$$\begin{array}{c} \sqrt[3]{} \\ 1 \\ 8 \\ 27 \\ 64 \\ 125 \\ 216 \\ \vdots \end{array}$$

Simplify

$$(9) \sqrt{x^4 y^2} = \boxed{x^2 y}$$

$$(10) \sqrt{x^7 y^8} = \boxed{x^3 y^4 \sqrt{x}}$$

$$(11) \sqrt[3]{x^6 y^5} = \boxed{x^2 y \sqrt[3]{y^2}}$$

$$(12) \sqrt[4]{x^9 y^3} = \boxed{x^2 \sqrt[4]{x y^3}}$$

$$\sqrt{x^2} = x$$

$$\sqrt[3]{x^3} = x$$

$$\sqrt[4]{x^4} = x$$

Simplify

$$(13) \sqrt{24x^3y^5} = \boxed{2xy^2\sqrt{6xy}}$$

$$(14) \sqrt[3]{54x^2y^7}$$

$$(15) \sqrt[3]{12x^4y^4}$$